

## MODULE SPECIFICATION

1. **Title of module:** CO525 Dynamic Web
2. **Department responsible for management:** Computer Science
3. **Start date:** September 2005
4. **The cohort of students (onwards) to which the module will be applicable:** 2009/10
5. **Number of students:** 50
6. **Modules to be withdrawn:** None
7. **Level:** I
8. **Number of credits:** 15
9. **Terms during which module taught:** Spring
10. **Prerequisites and co-requisites:**  
Prerequisites: CO327

**11. Programmes of study:**

BSc Computer Science (and variants), Applied Computing Programmes

**12. Subject-specific learning outcomes and relationship to programme learning outcomes:**

On successful completion of this module, students will:

- a) have an appreciation of current Web technologies and the key recommendations from both the World Wide Web Consortium and other relevant bodies.
- b) be able to evaluate and utilise a range of XML based languages to construct Web based documents. [A2, A4, B5, C2]
- c) understand the browser architecture for a range of devices and be able to critically evaluate browser technologies. [A4, B1]
- d) understand some of the current server side technologies employed by a web server that can serve dynamic data. [A2, A3, A4, B5, C1, C4]
- e) understand the problems and techniques in combining and transforming XML based languages. [A2, A4, B5, C1]

**13. Generic learning outcomes and relationship to programme learning outcomes:**

On successful completion of this module, students will:

- f) be able to use IT facilities for selecting and retrieving information [D3]
- g) be able to manage their learning and development, including time management and organisational skills. [D5]
- h) be able to identify and analyse criteria and specifications appropriate to specific problems and plan strategies for their solution. [B3]
- i) be able to deploy appropriate theory, practises and tools for the specification, design, implementation and evaluation of computer-based systems. [B5]

**14. Synopsis of curriculum.**

- XML based languages for displayable web content, W3C recommendations and their application areas, Uniform Resource Identifiers, XML parsing, document object models, meta data.
- Content formatting and transformations: use of transformations languages (e.g. XSLT), addressing document parts (the DOM), pattern matching, formatting objects, ontologies.
- Standards-based document design, CSS.

- Client-side programming and interaction: browser construction, client side scripting, forms, client side validation
- Server-side programming and support, server configuration and management issues, access to legacy systems, database access, introduction to web services.

### 15. Indicative reading list:

Tutorial and recommendations available online from the World Wide Web Consortium.

Jeffrey C. Jackson, "Web Technologies: A Computer Science Perspective", Prentice Hall, 2006

O'Reilly series on specific technologies (e.g. XHTML, CSS, JavaScript, Ajax, PHP)

Elliotte Rusty Harold, W.Scott Means, "XML in a Nutshell", O'Reilly UK, 2004.

Kay M, "XSLT 2.0 Programmer's Reference", John Wiley & Sons Inc, 2004.

### 16. Learning and teaching methods.

Learning outcomes will be achieved through a combination of lectures and private study, supported by reading guides and web-based materials, with further assistance provided electronically via newsgroups and/or the web. The achievement of learning outcomes will additionally be facilitated by formative coursework assignments, also supported by the same means. This module represents a total of 150 study hours, broken down approximately as follows:

20 hours of lectures

100 hours of private study (including exam revision)

30 hours spent on coursework

### 17. Assessment methods.

Achievement of learning outcomes will be assessed by written examination and coursework. The weightings are as follows:

50% written examination (covers learning outcomes a, c, d, e, h)

50% coursework (covers learning outcomes b, d, e, f, g, h, i)

### 18. Implications for learning resources:

Staff will be required to deliver this module, through teaching, supervision and marking. Materials from the reading list should be available through the library. IT resources will be required to support practical programming activities.

### 19. A statement confirming that, as far as can be reasonably anticipated, the curriculum, learning and teaching methods and forms of assessment do not present any non-justifiable disadvantage to students with disabilities.

The department recognises and has embedded the expectations of SENDA, and supports students with a declared disability or special (educational) need in its teaching, through the establishment of Inclusive Learning Plans agreed between student, department and the Disability Support Unit. We liaise with the Disability Support Unit in order to provide specialist support where needed.

**Statement by the Director of Learning and Teaching:** "I confirm I have been consulted on the above module proposal and have given advice on the correct procedures and required content of module proposals"

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Director of Learning and Teaching

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Date

**Statement by the Head of Department:** "I confirm that the Department has approved the introduction of the module and will be responsible for its resourcing"

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Head of Department

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Date